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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

GREEN et al.

Serial No. 10/589,882

Filed: August 18, 2006

For: ANALYSIS OF CELL MORPHOLOGY AND MOTILITY



Atty. Ref.: 620-450

Group: 1651

Examiner: Unknown

\* \* \* \* \*

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

June 12, 2007

Sir:

**INFORMATION DISCLOSURE STATEMENT**

- ☒ 1. **PTO-1449 Pursuant to 37 CFR 1.97(b)**  
[within 3 months of filing or prior to 1st Office Action on the merits]  
N/C
- ☐ 2.(a) **Statement Pursuant to 37 CFR 1.97(c)**  
[before Final Office Action or Allowance (requires Rule 97(e)  
Statement or Rule 17(p) fee)]  
N/C
- ☐ 2.(b) **Fee Payment Pursuant to 37 CFR 1.97(c)**  
[before Final Office Action or Allowance (requires Rule 97(e)  
Statement or Rule 17(p) fee)]  
\$180.00
- ☐ 3. **Pursuant to 37 CFR 1.97(d)**  
[after Final Office Action or Allowance (requires Rule 97(e)  
Statement and Rule 17(p) fee), but before final fee payment]  
\$180.00

The following are submitted in the above-identified application in compliance with 37 C.F.R. §§ 1.97 and 1.98:

- ☒ 4. A list of documents on Form PTO-1449 together with copies of each identified document and a translation or a concise explanation of each non-English language document (such as a Search Report) is enclosed herewith.

This paper is submitted in accordance with:

- ☒ 5. 37 CFR 1.97(b): [within 3 months of filing or prior to 1st Office Action]
- ☐ 6. 37 CFR 1.97(c): [before Final Office Action or Allowance, whichever is earlier]; and
- ☐ a) The required Statement made in item 8 below; or
- ☐ b) The \$180.00 fee specified in 37 CFR §1.17(p) for submission of this Information Disclosure Statement is authorized in item 9 below.
- ☐ 7. 37 CFR §1.97(d): [after Final Office Action or Allowance (requires Rule 97(e) Statement and Rule 17(p) fee), but before final fee payment]; and
- ☐ a) The fee (\$180.00) required by 37 CFR §1.17(p) is submitted herewith; and
- ☐ b) The required Statement is stated in item 8 below.
- ☐ 8. Statement under 37 CFR 1.97(e)
- ☐ a) The undersigned attorney of record hereby certifies under 37 C.F.R. §1.97(e) that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement (each item contained in this IDS was the first citation of that item by a foreign patent office in a counterpart foreign application which occurred no more than three months prior to the filing of this IDS); or
- ☐ b) No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement, after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

- ☒ 9. Please charge all deficiency fees associated with the submission of this Information Disclosure Statement and any other fees applicable to this application to Deposit Account No. 14-1140. An original and one (1) copy of this document are enclosed.

Respectfully submitted,  
NIXON & VANDERHYE P.C.

By: \_\_\_\_\_



B. J. Sadoff

Reg. No. 36,663

901 North Glebe Road, 11th Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

**INFORMATION DISCLOSURE  
CITATION**

ATTY. DOCKET NO.

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APPLICANT

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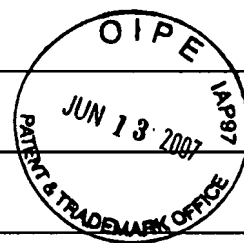
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FILING DATE

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**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,896,967	01/1990	Douglas-Hamilton et al			
	5,031,099	07/1991	Kettler			
	6,130,956	10/2000	Butterworth et al.			
	2001/0021018	09/2001	Basiji et al.			

**FOREIGN PATENT DOCUMENTS**

DOCUMENT		DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	GB 2 130 718	06/1984	Great Britain				
	SU 934383	06/1982	Soviet Union				
	GB 2 305 723	04/1997	Great Britain				
	WO 92/13308	08/1992	WIPO				

**OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)**

	Tang Huiming et al "An Approach for Analyzing the Traces of Moving Objects", Pattern Recognition, 1992, Vol. III, Conference C: Image, Speech and Signal Analysis, Proceedings., 11 <sup>th</sup> IAPR International Conference on, 1992, pages: 526-529
	Le Pichon et al, "Sperm Motility and Motion Analysis: an Automatic Approach", Engineering in Medicine and Biology Society, 1992, Vol. 14, Proceedings in the Annual International Conference of the IEEE, Vol. 5, pages 2196-2197
	Young et al, "Real-time Tracing of Spermatozoa", IEEE Engineering in Medicine and Biology Magazine, Vol. 15, issue 6, November – December 1996, pages 117-120
	Aitken et al, "Relationship between the movement characteristics of human spermatozoa and their ability to penetrate cervical mucus and zona-free hamster oocytes", J. Reprod. Fert. (1985) 73, 441-449
	Clements et al, "Implementing comprehensive quality control in the andrology laboratory", Human Reproduction, Vol. 10, No. 8, pp 2096-2106, 1995
	Ellington et al, "Higher-quality human sperm in a sample selectively attach to oviduct (fallopian tube) epithelial cells in vitro", Fertility and Sterility, Vol. 71, No. 5, May 1999, pp 924-929
	Green et al, "Measurements of the orthogonal blade-vortex interaction using a particle image velocimetry technique", Experiments in Fluids 29 (2000), pp 369-379
	Katz et al, "Mechanisms of filtration of morphologically abnormal human sperm by cervical mucus", Fertility and Sterility, Vol. 54, No. 3, September 1990, pp 513-516

\*Examiner

Date Considered

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

Form PTO-FB-A820 (Also PTO-1449)

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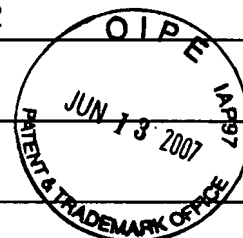
(Use several sheets if necessary)

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**FOREIGN PATENT DOCUMENTS**

DOCUMENT	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO

**OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)**

	Liu et al, "Morphology of spermatozoa bound to the zona pellucida of human oocytes that failed to fertilize <i>in vitro</i> ", J. Reprod. Fert. (1992) 94, 71-84
	Martin, "The Theory of the Microscope" (1996) Blackie & Son, Imprint page
	Matson, "External quality assessment for semen analysis and sperm antibody detection: results of a pilot scheme", Human Reproduction, Vol. 10, No. 3, pp 620-625, 1995
	Mortimer et al, "Relationship between human sperm motility characteristics and sperm penetration into human cervical mucus <i>in vitro</i> ", J. Reprod. Fert. (1986) 78, 93-102
	Mortimer, "Practical Laboratory Andrology" (1994) Oxford University Press, Chapter 3 (pages 43 to 87) and Chapter 7 (pages 135 to 157)
	Swan et al, "Declining semen quality: can the past inform the present?", BioEssays 21:614-621 (1999)
	WORLD HEALTH ORGANIZATION: "WHO LABORATORY MANUAL for the examination of human semen and sperm-cervical mucus interaction" (1999) 4 <sup>th</sup> edition, Cambridge University Press
	United Kingdom Search Report dated July 16, 2004, issued in GB0403611.7
	Novelty Search carried out by United Kingdom Patent Office

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